

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Claims 34 and 37 are amended. Support for amendments can be found throughout the Specification, for example, on page 11, lines 3-27. No new matter is added.

After amending the claims as set forth above, claims 34-41 are now pending for examination. Claims 42-43 are withdrawn.

Election / Restrictions

In response to the restriction requirement set forth in the Office Action, Applicants hereby provisionally elect Group I, claims 34-41 for examination.

Applicants reserve the right to file one or more divisional applications directed to the subject matter of non-elected claims.

Claim Rejections under 35 U. S. C. §§ 102 and 103

Claims 34, 35 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (US 4,889,319, hereinafter “Phillips ‘319”), further in view of Yoshiro et al. (English translation of JP 2002-310302, hereinafter “Yoshiro ‘302”) and Horsky et al. (US 2003/0230986, hereinafter “Horsky ‘986”). Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips ‘319, Yoshiro ‘302, and Horsky ‘986, further in view of Fareed et al. (US 2002/0058107, hereinafter “Fareed ‘107”). Claims 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips ‘319, Yoshiro ‘302, and Horsky ‘986, further in view of Hisaharu et al. (English translation of JP 06-107803, hereinafter “Hisaharu ‘803”). Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Phillips '319, Yoshiro '302, and Horsky '986, further in view of Ji et al. (US 2003/0098419, hereinafter "Ji '419").

Claim 34 is amended to recite that "the first gasket and the fifth gasket are formed by a perfluoroelastomer, . . . and the deposition source container accommodates an organic material for the organic EL layer and has an inner surface having center line average roughness not greater than 100 nm."

One advantage of the claimed features is that decomposition of the organic material can be suppressed. (See Specification, page 11, lines 15-18). Specifically, a reduced surface roughness of the deposition source container (i.e., reduced effective surface area of the inner surface of the deposition source container) can improve luminance and luminescent lifetime of an organic EL layer or element. This is because it is possible to reduce an effective surface area between the organic material and the inner surface of the deposition source container.

Another advantage provided by the presently claimed apparatus is that the luminance and luminescent lifetime of the organic EL element can be improved by using particular gasket materials for the first to the fifth gaskets as recited in claim 34. (See Specification, page 14, line 24 to page 15, line 5).

Consequently, improvement of the organic EL layer or element may be achieved by reducing the surface roughness of the inner surface of the deposition source container and by selecting the gasket materials as presently claimed. Very precise control is required to deposit the organic EL layer and to improve luminescent lifetime in comparison with deposition of a layer used in a semiconductor device.

Phillips '319 teaches a vacuum system having all-metal seals and a deposition chamber 36, with housings containing Knudsen cells 38 to 43, from which material for deposition is produced (Phillips '319, column 7, lines 3-5). However, Phillips '319 is silent regarding the surface roughness of the deposition chamber 36 and the housings for improving the luminance and the luminescent lifetime of the organic EL layer. Further, Phillips '319 is not generally directed to deposition of an organic EL layer and therefore is not concerned with

the surface roughness of the deposition chamber 36 and the housings containing Knudsen cells 38 to 43. Consequently, Phillips '319 fails to achieve the advantages noted above.

In summary, Phillips '319 fails to teach that "the first gasket and the fifth gasket are formed by a perfluoroelastomer," and that "the deposition source container... has an inner surface having center line average roughness not greater than 100 nm," as set forth in claim 34.

Yoshiro '302 teaches a fluororubber sealing material used for a seal portion of a semiconductor carrying system, a vacuum container. Like Phillips '319, Yoshiro '302 fails to disclose selecting gasket materials and a reduced surface roughness of a deposition source chamber for depositing an organic EL layer, as recited in claim 34.

Horsky '986 teaches a vaporizer 2 attached to a vaporizer valve 3 through an annular thermally conductive gasket 4. The vaporizer 2 houses a water bath 17 which surrounds a crucible 18 containing a solid feed material such as decaborane 19 (Horsky '986, Figure 3). However, Horsky '986 is silent regarding surface roughness of the crucible and the impact thereof on the luminance and luminescent lifetime of the organic EL element, in contrast to claimed invention.

Thus, none of Phillips '319, Yoshiro '302 and Horsky '986, whether considered alone or in combination, teaches "the first gasket and the fifth gasket are formed by a perfluoroelastomer... the deposition source container accommodates an organic material for the organic EL layer and has an inner surface having center line average roughness not greater than 100 nm," as recited in claim 34.

Fareed '107, Hisaharu '803 and Ji '419 are cited for disclosing other features of the claims, but fail to cure the deficiencies of Phillips '319, Yoshiro '302 and Horsky '986 as explained above.

Claims 35-41 depend from claim 34, and thus are patentable for at least the same reasons as claim 35.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By 

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 945-6014
Facsimile: (202) 672-5399

George C. Beck
Attorney for Applicants
Registration No. 38,072